Kulikov, I.S.

USSR/Atomic and Molecular Physics - Statistical Physics . Thermo- D-3
    dynamics.

Abs Jour : Ref Zhur - Fizika, No 4, 1957, No 8995

Author   : Ivanov, L.I., Matveyeva, M.P., Kulikov, I.S.
Title   : Concerning the Problem of the Determination of the Thermo-
           dynamic Constants of Metals and Alloys.

Orig Pub : Issledovaniya po zharoprochnym splavam. M., AN SSSR, 1956,
           11-16

Abstract : Description of the construction of three instruments for the
           determination of the rates of evaporation of the components
           of solid and liquid alloys using radioactive isotopes -- based
           on the rate of evaporation from an open surface, the velocity
           of escape of vapor through a collaborated opening, and the
           rate of the isotopic exchange between two specimens of equal
           chemical composition, when one of these contains the radio-
           active isotope. The advantages of the third method for
           solid alloys is noted, when the rates of evaporation of the
           components are different. The authors present data ob-
           tained with the aid of the above method on the vapor pressure
           of iron and cobalt, on the heat of sublimation of these

Card   : 1/2

USSR/Atomic and Molecular Physics – Statistical Physics. Thermo-   D-3
        dynamics.

Abs Jour : Ref Zhur - Fizika, No 4, 1957, No 8995

        metals (104.2 and 102.4 kcal/g-atom respectively), the
        partial pressure of iron in several alloys and the coef-
        ficient of self-diffusion of iron.

Card   : 2/2

K_{c} i κ_{c} r , $\mathcal{I}.$ $\mathcal{I}.$

Category: USSR / Physical Chemistry
Thermodynamics. Thermochemistry. Equilibrium. Physico-
chemical analysis. Phase transitions.   B-8

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 29681

Author : Samarin A. M., Kulikov I. S.
Inst   : not given
Title   : Thermodynamics of Desulfurization of Cast Iron

Orig Pub: Zh. neorgan. khimii, 1956, 1, No 7, 1566-1577

Abstract: From the published values of change in free energy on formation of
         oxides and sulfides ($\wedge$ F) were calculated   F and equilibrium
         constants of the reactions of interaction of BaO (solid), CaO (solid),
         MnO (liquid) and MgO (solid) with FeS, dissolved in liquid Fe, accord-
         ing to the reaction MO (solid) + FeS = MS (solid) + FeO (liquid), at
         temperatures of 1135-1750°. In the case of cast iron the effect of
         the carbon content on the activity of sulfur was taken into account.
         The temperature dependence of residual sulfur content of cast iron
         is given for desulfurization by means of pure BaO, CaO and MgO.

Card   : 1/2   -12-

Category: USSR / Physical Chemistry
Thermodynamics. Thermochemistry. Equilibrium. Physico-chemical analysis. Phase transitions.   B-8

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 29881.

Desulfurization capacity increases with increasing radius of the cathion: under reducing conditions CaO, and especially BaO are effective desulfurization agents, whereas MgO is not; under oxidizing conditions only BaO can be used as a desulfurization agent (residual sulfur content of cast iron is of about 0.04-0.05%). To calculate the desulfurization capacity of slag it is necessary to have data concerning the activity of oxides and sulfides in fused slag. Approximate equations have been derived for the calculation of distribution coefficient of sulfur, between slag and cast iron (L), for slag containing CaO or Mn: $L_{s(C_aO)} = -10850/T + 12.575 + 1.72 \lg (a_{C_aO}) + 0.72 \lg [\% S]$ and $L_{s(Mn)} = 10165/T - 4.37 + 1.72 \lg [\% Mn] + 0.72 [\% S]$. The role of Mn in desu,furization of cast iron increases considerably on lowering of the temperature.

Card   : 2/2   -13-

KULIKOV, I.S., KOZHEVNIKOV, I. Yu.

"Some Questions of the Theory of Metallurgical Slags,"
lecture given at the Fourth Conference on Steelmaking, A.A. Baikov Institute of
Metallurgy, Moscow, July 1-6, 1957

KULIKOV, I.S.

"Some Problems of Binary Silicate Systems,"
lecture given at the Fourth Conference on Steelmaking, A.A. Baikov Institute of
Metallurgy, Moscow, July 1-6, 1957

AUTHOR: Kulikov, I. S.

TITLE: Thermodynamics of Oxides in the FeO-SiO_2 and FeO-TiO_2 Systems
(Termodinamika okislov v sistemakh FeO-SiO_2 i FeO-TiO_2)

ABSTRACT: An effort is made at thermodynamic analysis of the FeO-SiO_2
system with consideration of the phenomena of polymerization, the
ordering of covalent bonds, and the heats of mixture. The author
calculates the coefficient of FeO activity, f_{FeO}, in the system on an
equation previously derived (Zhukhovitskiy, A. A., Finkel'shteyn,
B. N., and Kulikov, I. S., Dokl. AN SSSR, 1951, Vol 81, p 227). The
results of calculation of f_{FeO} in the 1178-3000°C interval are in sat-
isfactory agreement with the available experimental data. The temper-
ature dependence of the partial heats of solution of FeO for various
compositions of the system are calculated from the values obtained.
For the composition corresponding to the stoichiometric ratio for
$Fe_2SiO_4[N_{FeO}=0.67]$ the partial heat and entropy of solution are

Card 1/2

Thermodynamics of Oxides in the $FeO-SiO_2$ and $FeO-TiO_2$ Systems

maximal. The values of the calculated partial heats of solution are close to the literature data. The author presents the phase diagram of the system and calculates thereon a curve for the separation into layers which circumscribes the region of separation at $\sim 2500^\circ C$. The activity of TiO_2 in the $FeO-TiO_2$ system is calculated from the data on FeO activity. The values of f_{TiO_2} at N_{TiO_2} concentrations over 0.53 are obtained by extrapolation from $N_{TiO_2} = 1$. A graphic presentation is made of the relationship of the activities of FeO and TiO_2 upon concentration in the system at 1460°. From examination of this relationship it follows that both the components of the system have significant negative deviations over the entire interval of concentrations. The ΔF^O curve of the change in free energies upon formation of a single mole in the system at 1460° and the $\Delta F^O - \Delta F^O_{ug}$ curve also illustrate significant negative deviations in the entire system. The curves in the vicinity of the Fe_2TiO_4 and $FeTiO_3$ compositions reveal minimums testifying to the stability of these compounds in liquid melts, the minimum for Fe_2TiO_4 being more distinct. The ΔF^O values for the reactions of formation of either compound are calculated. Agreement with available literature data for Fe_2TiO_4 is satisfactory.

Yu. Z.

Card 2/2

Kurilov, I

Kulikov, I. S.

AUTHORS: Kozhevnikov, I. Yu. and Kulikov, I. S. (Moscow)   24-11-30/31

TITLE: On the theory of metallurgical slags. (K teorii metallurgicheskikh shlakov).

ABSTRACT: As regards the theory of metallurgical slags, three points of view can be distinguished, namely: consideration of the slags as solutions consisting of chemical compounds and of free oxides (Refs.1,2); consideration of the slags as pure ionic solutions (Refs.3 and 7) and consideration of the slags as solution of chemical compounds and ions into which the free oxides decompose (Refs. 8,9). So far, there is a lot of controversy and no single theory has been accepted and the people concerned with accumulation of experimental data for evolving a theory have no possibility of calculating the equilibrium of metallurgical reactions. Therefore, the authors considered it important to generalise the investigations aimed at elucidation of the physico-chemical nature of metallurgical slags and in this paper an analysis is presented of the experimental data of one of the authors and of Shvartsman (Refs.12,13) relating to the study of the thermodynamic functions of the reaction of desulphuring iron with slags of various

Card 1/2

PHASE I BOOK EXPLOITATION   SOV/2646

21(5)

Kulikov, Ivan Stepanovich, Candidate of Technical Sciences

Primeneniye radioaktivnykh izotopov v metallurgii i metallofizike (Use of Radioactive Isotopes in Metallurgy and Physical Metallurgy) Moscow, 1958. 46 p. Errata slip inserted. 4,000 copies printed.

Sponsoring Agencies: USSR. Gosudarstvennyy nauchno-tekhnicheskiy komitet, and Akademiya nauk SSSR. Vsesoyuznyy institut nauchnoy i tekhnicheskoy informatsii. Otdel nauchnoy i.tekhnicheskoy informatsii. Sektor metallurgicheskoy promyshlennosti.

Chief Ed.: I.P. Bardin, Academician.

PURPOSE: This book is intended for metallurgists, industrial engineers in metallurgical plants, physicists, and students studying the role of radioactive isotopes in metallurgical science.

Card 1/3

Use of Radioactive (Cont.)   SOV/2646

COVERAGE: The book deals with the use of radioactive isotopes
    in industrial metallurgical processes and investigations
    of the mechanisms of alloy formation, diffusion in solids,
    sublimation, and other phenomena. No personalities are mentioned.
    There are 318 references: 209 Soviet, 80 English, 1 Swiss,
    1 Czech, 11 French, and 16 German.

TABLE OF CONTENTS:

Card 2/3

SOV/2646

Use of Radioactive (Cont.)

AVAILABLE: Library of Congress (TN673.K8)

TM/ec
10-27-59

Card 3/3

KULIKOV, I. S.

SOV/1728

18(0)   PHASE I BOOK EXPLORATION

Akademiya nauk SSSR. Institut metallurgii

Sovremennyye problemy metallurgii (Modern Problems in Metallurgy)
Moscow, Izd-vo AN SSSR, 1958. 640 p. 3,000 copies printed.

Resp. Ed.: A.M. Samarin, Corresponding Member, USSR Academy of
Sciences; Ed. of Publishing House: V.S. Kubarnikov, and
A.I. Baranov; Tech. Ed.: T.V. Polyakova.

PURPOSE: This book is intended for scientific and technical per-
sonnel in the field of metallurgy.

COVERAGE: This is a collection of articles on certain aspects of
Soviet metallurgy. The book is dedicated to Academician
Ivan Pavlovich Bardin on the occasion of his 75th birthday. The
book is divided into seven parts. The first part consists of
two articles presenting a brief account of the biography and
professional activity of the Soviet metallurgist. It includes an
article by John Chipman, Nicholas Grant, and John Elliott (M.I.T.
USA) describing their meeting with Bardin in Moscow and also his
visit to the United States. The second part consists of three
articles and deals with raw materials and fuels for the Soviet
metallurgical industry. The third part represents the major
section of the book. It consists of 25 articles dealing with
the various aspects of the metallurgy of pig iron and steel.
The fourth part consists of two articles treating the metal-
lurgy of nonferrous metals. The fifth part consists of three
articles on the forming of metals. The sixth part consists of
eight articles discussing certain aspects of physical metal-
lurgy. The last part deals with general problems in the field
of metallurgy. References are given after each article. No
personalities are mentioned.

TABLE OF CONTENTS:

Modern Problems in Metallurgy

Card 5/12

KULIKOV, I.S.

KULIKOV, I.S.

LEONIDOV, N.K.
25(5)

PHASE I BOOK EXPLOITATION

Akademiya nauk SSSR. Institut metallurgy i obogashcheniy informatsii

Metallurgiya SSSR, 1917-1957, t. 1 (Metallurgy of the USSR, 1917 - 1957, Vol. 1) Moscow, Metallurgizdat, 1958. 745 p. 3,000 copies printed.

Ed. (Title page): I. P. Bardin, Academician; Ed. (Inside book): G. V. Popova; Tech. Ed.: O. G. Rabkin.

PURPOSE: The book is intended for scientific workers and engineers in metallurgical plants and in the machine-building industry. It may also be used by students in advanced courses in metallurgical vuzes.

COVERAGE: This collection of articles covers extensively practical and theoretical developments in Soviet metallurgy during the last 40 years. The material deals with the discovery and development of the major ore deposits and the growth of the metal industry in various parts of Europe and Asiatic USSR. Research institutes, laboratories, their location, and the names of the scientists and engineers involved are listed. Many papers contain so many references and coverage of each article to list them. The authors claim that the processes, plants and theories described in this book reflect the most recent developments in Soviet metallurgy.

Card 1/21

Metallurgy of the USSR (Cont.)

of slags, thermic processes and pyrometallurgy. The electrolysis of molten salts and aqueous solutions are the object of many studies. The author notes that only a part of the work currently done is mentioned; metallurgy has been mentioned in this paper. There are 331 Soviet references.

Baum, O. A. Development of the theory of liquid slags in the USSR. The rapid development of modern metallurgy called for a more thorough knowledge of the composition, behavior, and reaction of molten slags in metallurgical processes. Starting with this premise the author set out to make the various theories developed and experiments performed by Soviet metallurgists. The molecular theory is said to have developed the thinking of many outstanding Soviet scientists such as Baykov, Samsonov, Pavlov, Gerty Grudinsky, et al. This theory has been complemented by the introduction of the ionic concept, and later, by the ionic theory of liquid slags. However, formulas, graphs and questions explain and confirm the fundamentals of these theories. The ionic theory was successfully applied in the electrolysis of molten metals to extract various elements. The author, in cooperation with Baykov,

Card 20/21

Metallurgy of the USSR (Cont.)

Chernov, and Krumlik, developed a method based on this theory for the recovery of nickel, and cobalt from molten slags. There are 91 references. 83 Soviet and 1 English.

Bochvar, I.G. The Use of Radioactive Isotopes
The use of radioactive isotopes in Soviet metallurgy dates back to 1940. The commercial production of semiproducts made possible wide application of this method. Gamma rays are used to measure the thickness of metal and to measure the thickness of metallic coatings on sheet metal. Radioactive isotopes are used to measure the density of liquid steel and suspensions. The reduction of time with gamma rays could aid to increase its hardness. In 1952 Regulary and other scientists developed a method of analysis based on the reflection and scattering of gamma particles. A modification of this method may be used to analyze blast compounds. There are 49 Soviet references.

AVAILABLE: Library of Congress

Card 21/21

KULIKOV, I.S., kand.tekhn.nauk

Present-day state of the metallurgical slag theory. Izv.vys.ucheb.
zav.; chern.met. no.10:63-67 O '58.   (MIRA 11:12)

1. Institut metallurgii imeni A.A. Baykova.
                    (Slag) (Ions)

KULIKOV, I.S.

Regarding modern theory of the Constitution of Metallurgical alloys

report submitted for the 5th Physical Chemical Conference on
Steel Production.

Moscow — 30 JUN 1959

Soveshchaniye po eksperimental'noy tekhnike i metodam vysokotempera-
turnykh issledovaniy, 1956

Eksperimental'naya tekhnika i metody issledovaniy pri vysokikh tem-
peraturakh; trudy soveshchaniya (Experimental Techniques and
Methods of Investigation at High Temperatures; Transactions of the
Conference on Experimental Techniques and Methods of Investigation
at High Temperatures) Moscow, AN SSSR, 1959. 789 p. (Series:
Akademiya nauk SSSR. Institut metallurgii. Komissiya po fisike-
khimicheskim osnovam proizvodstva stali) 2,200 copies printed.

Resp. Ed.: A.M. Samarin, Corresponding Member, USSR Academy of
Sciences; Ed. of Publishing House: A.L. Bankvitser.

PURPOSE: This book is intended for metallurgists and metallurgical
engineers.

COVERAGE: This collection of scientific papers is divided into six
parts: 1) thermodynamic activity and kinetics of high-temperature
processes 2) constitution diagram studies 3) physical properties
of liquid metals and slags 4) new analytical methods and pro-
duction of pure metals 5) pyrometry, and 6) general questions.
For more specific coverage, see Table of Contents.

Vatolin, N.A., and O.A. Yesin. Solubility of Carbon in Iron
Alloyed With Various Elements   88
A study was made of the effect of phosphorus, chromium,
manganese, sulfur, and vanadium on the solubility of carbon
in liquid iron, and also of silicon on the solubility of
carbon in molten manganese and ferrochrome. It was shown
that regularities observed in the effect of the nature and
concentration of the addition, as well as of the tempera-
ture, can be qualitatively explained with the aid of the
theory of regular solutions.

Ivanov, L.I., I.S. Kulikov, and M.P. Matveyeva. Methods of
Measuring the Thermodynamic Constants of Metals and Alloys
at High Temperature   96
An apparently reliable method was developed for determining
the heat of sublimation of metals, making use of the prin-
ciple of isotope exchange in the gaseous phase of metals.
The use of radioactive isotopes permits the determination of
partial values of the following thermodynamic constants: rate
of vaporization, vapor pressure, heat of sublimation, and
the individual thermodynamic activity of each of the elements
of the alloy.

5

BAZILEVICH, Sergey Vladimirovich; LAZAREV, Boris Leonidovich; STARIKOV,
    Modest Andreyevich; GOLOSKOV, Boris Viktorovich; KULIKOV, I.S.,
    kand.tekhn.nauk., retsenzent; KHODAK, L.Z., red.; CHAPAYKINA,
    F.K., red.izd-va; MATLYUK, R.K., tekhn.red.

    [Methods for experimental investigation of the blast-furnace
    process] Metody eksperimental'nogo issledovaniia domennogo
    protsessa. Sverdlovsk, Gos.nauchno-tekhn.izd-vo lit-ry po
    chernoi i tsvetnoi metallurgii. Sverdlovskoe otd-nie, 1960.
    254 p.   (MIRA 14:3)
        (Blast furnaces)   (Cast iron--Metallurgy)

PHASE I BOOK PUBLICATION

SOV/4538
SOV/20-3-5

Akademiya nauk SSSR. Institut metallurgii

Metallurgiya, metallovedeniye, fiziko-khimicheskiye metody issledovaniya
(Metallurgy, Metallography, and Physicochemical Research Methods in Metallurgy)
Moscow, Izd-vo AN SSSR, 1960. 291 p. (Series: Its: Trudy, vyp. 5) Errata slip
inserted. 2,800 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut metallurgii imeni A.A. Baykova.

Resp. Ed.: I.P. Bardin, Academician (Deceased); Ed. of Publishing House:
V.A. Klimov; Tech. Ed.: T.P. Polenova.

PURPOSE: This collection of articles is intended for metallurgists and metal
researchers.

COVERAGE: The collection contains articles on metallurgy, metal science, and
physicochemical research methods. Separate articles discuss the structure and
properties of some metals and alloys, the effect of cold treatment and
inclusions on the properties of alloys are analyzed, and instruments and
methods of analysis are described.

Pavlov, M.N. and A.A. Kameran. Study of the Sulfur Absorption Capacity
of Magnesium Oxide and Calcium Oxide ... 16

Popov, Yu.A., V.A. Mirolinskiy, and A.N. Zamarin. Effect of Deoxidation
by Complex Alloys of Manganese, Silicon, and Aluminum on the Content and
Composition of Oxide Inclusions in Steel ... 22

Kuleshov, A.A. On the Problem of Utilizing the Results of Mechanical
Tests for Evaluating the Technology of Smelting and Casting of Steel ... 36

Lagoshin, A.T. On the Sequence of Crystallization of Nonmetallic
Inclusions in Steel, and of Oxides and Sulfides in Ores ... 47

Movliyev, K.K. Relation of Coefficients of Radiant-Heat Emission and
Radiant-Heat Exchange and a Nomogram for Determining These Coefficients ... 56

Nikitina, V.S. On the Theory of Production of Iron Deep Cast in the Presence of Copper-
Base Alloys, in Lamellar ... 72

Kirpichev, V.M. Utilization of Sulfur Dioxide at Nonferrous Metallurgical
Plants ... 73

Frenk, O.S., and Ye.I. Danilova. Interaction of Sulfur Dioxide With
the Oxides and Sulfides of Some Nonferrous Metals ... 76

Aleksandrov, O.K., and O.N. Zviadadze. Interaction of Selenium With
Oxides Sulfide ... 81

Dolya, B.Ye., Z.A. Sviderskaya, and L.L. Rozhik. Study of the
Nature of the Manganese Phase of Some Magnesium-Base Alloys ... 85

Sviderskaya, Z.A., and A.A. Vashchenko. Effect of Cold Work on the
Properties of Aluminum-Copper and Aluminum-Copper-Magnesium Alloys
Under Various Aging Conditions ... 98

Perlin, I.M., and V.V. Motin. Dependence of Metal Hardness on Charge
of Deformation Sign During Cold Hardening ... 115

Perlin, I.M., and V.Ya. Motin. Dependence of Tensile Strength, Nominal
Yield Point, and Specific Elongation on Sign Change of Plastic Defor-
mation of Metal ... 127

Perlin, I.M., and V.Ya. Motin. Dependence of the Microstructure of a
Metal on Change in the Plastic Deformation Sign ... 133

Osipov, V.G. Final Deformation of Simple Shear ... 137

Davidov, I.Ye. and B.G. Polyakov. Study of the Heat Resistance of
Titanium Alloys With Titanium, Iridium, Palladium, Chromium, and
Aluminum, by the Bending Method ... 139

Oran-Grishenko, B.V., and V.G. Groraro. Fusibility Curve of the
Al-Cu-Cr-Mn System ... 145

Kulikov, I.S.

KULIKOV, I.S.; SAMARIN, A.M.

   Investigating sulfur absorbing properties of magnesium and calcium
   oxides. Trudy Inst.met. no.5:16-21 '60.   (MIRA 13:6)
               (Magnesium oxide)
               (Calcium oxide)
               (Desulfuration)

ZHMOYDIN, G.I.(Moskva); KULIKOV, I.S.(Moskva)

Physical properties of blast furnace slags and the effect on
them of magnesium oxide, sulfur, manganese and iron. Izv.
AN SSSR. Otd. tekh. nauk. Met.i topl. no.5:25-32 S-O '60.
(MIRA 13:11)

(Slag--Testing) (Viscosimetry)

BARDIN, I.P., akad. [deceased]; KULIKOV, L.S; ZUDIN, V.M.; TSYLEV, L.M.;
SOKOLOV, G.A.; GALATONOV, A.L.; BABARYKIN, N.N.; GUL'TYAY, I.I.

Making low-sulfur cast iron at the Magnitogorsk Combine. Stal' 20
no.10:865-869 O '60.   (MIRA 13:9)
    (Magnitogorsk--Blast furnaces)   (Cast iron--Metallurgy)

KULIKOV, I. S.

Doc Tech Sci - (diss) "Desulfuration of cast iron." Moscow,
1961. 25 pp; (Ministry of Higher and Secondary Specialist
Education RSFSR, Moscow Order of Labor Red Banner Inst of Steel
imeni I. V. Stalin); 180 copies; price not given; list of author's
works on pp 22-25; (KL, 7-61 sup, 229)

KULIKOV, I.S. (Moskva)

Kinetics of desulfuration of pig iron by slags. Izv. AN SSSR.
Otd. tekh. nauk. Met. i topl. no.2:20-30 Mr-Ap '61.

(MIRA 14:4)

(Iron—Metallurgy)
(Desulfuration)

PANOV, A.S. (Moskva); KULIKOV, I.S. (Moskva); TSYLEV, L.M. (Moskva)

Viscosity of molten calcium oxide - silica - calcium sulfide
Izv. AN. SSSR. Otd. tekh. nauk. Met. i topl. no.3:25-30
My-Je '61.   (MIRA 14:7)
            (Viscosimetry) (Slag--Testing)

ZUDIN, V.M.; BABARYKIN, N.N.; GALATONOV, A.L.; KULIKOV, I.S.

Effect of magnesium on the desulfurizing properties of blast furnace
slags. Stal' 21 no.5:385-391 My '61.   (MIRA 14:5)

1. Magnitogorskiy kombinat i Institut metallurgii AN SSSR.
                         (Desulfuration)

KULIKOV, Ivan Stepanovich; MITIN, V.I., red.; KARASEV, A.I., tekhn.
red.

[Desulfuration of cast iron] Desul'furatsiia chuguna. Moskva,
Moskva, Metallurgizdat, 1962. 305 p.   (MIRA 15:7)
          (Cast iron—Metallurgy)
          (Desulfuration)

PANOV, A.S. (Moskva); KULIKOV, I.S. (Moskva); TSYLEV, L.M. (Moskva)

Solubility of calcium sulfide in calcium oxide - magnesium oxide - silica melts. Izv. AN SSSR. Otd. tekh. nauk. Met. i topl. no.1:42-45 Ja-F '62.   (MIRA 15:2)
                          (Metals—Sulfur content)
                          (Calcium sulfide)
                          (Solubility)

PANOV, A.S. (Moskva); KULIKOV, I.S. (Moskva); TSYLEV, L.M. (Moskva)

    Effect of calcium sulfide on the viscosity of alkaline earth metal
    aluminosilicate melts. Izv. AN SSSR. Otd. tekh. nauk. Met. i topl.
    no.3:27-32 My-Je '62.   (MIRA 15:6)
              (Aluminosilicates)   (Viscosimetry)

KULIKOV, I.S. (Moskva)

Thermodynamic investigation of sulfur behavior during open-hearth
furnace smelting. Izv.AN SSSR. Otd.tekh.nauk. Met.i topl. no.4:
20-30 Jl-Ag '62.   (MIRA 15:8)
          (Open-hearth process) (Sulfuration)

PANOV, A.S.(Moskva); DANYUSHCHENKOV, I.A.(Moskva); KULIKOV, I.S.(Moskva); TSYLEV, L.M.(Moskva)

Effect of magnesium and barium oxides on the viscosity of silicate melts. Izv. AN SSSR.Otd.tekh.nauk. Met. i topl. no.5:37-42 S-O '62.

(MIRA 15:10)

(Alkaline earth compounds)   (Viscosity)

KULIKOV, I.S.

Iron-base solutions. Trudy Inst.met. no.10:3-40 '62. (MIRA 15:8)
(Iron alloys)

KULIKOV, I.S.

Theory of binary silicate systems. Trudy Inst.met. no.10:41-62
'62.
                              (Silicates)   (MIRA 15:8)

IANOV, A.S.; KULIKOV, I.S.;TSYLEV, L.M.

Surface tension and density of $Cb^- \cdot SiO_2 - CaO$ melts.
Zhur. fiz. khim. 36 no.6:1353-1354 Je'62   (MIRA 15:7)

ZLOBINSKIY, Boris Mikhaylovich; NEMTSOV, Nikolay Stepanovich; KULIKOV,
I.S., red.; KHUTORSKAYA, Ye.S., red. izd-va; OBUKHOVSKAYA,
G.P., tekhn. red.

[Radioactive isotopes in blast-furnace practice; methods of
use and safety problems] Radioaktivnye izotopy v domennom
proizvodstve; metodika primeneniia i voprosy bezopasnosti.
Moskva, Metallurgizdat, 1963.   94 p.   (MIRA 16:6)
          (Blast furnaces)
      (Radioisotopes--Industrial applications)

ZHMOYDIN, G.I. (Moskva); KULIKOV, I.S. (Moskva)

Sulfur distribution between carbon-saturated iron and molten
calcium oxide - alumina. Izv. AN SSSR. Otd. tekh. nauk. Met.
i gor. delo no.3:70-75 My-Je '63.   (MIRA 16:7)
        (Iron--Metallurgy) (Desulfuration) (Slag)

KULIKOV, I.S.; ZHMOUDIN, G.I.

Diagrams of the desulfurating ability and the viscosity of
blast furnace slags. Trudy Inst. met. no.12:13-15 '63.
(MIRA 16:6)

(Slag—Testing)
(Desulfuration)
(Viscosity)

PANOV, A.S.; KULIKOV, I.S.; TSYLEV, L.M.

Effect of calcium sulfide on the surface tension and density of CaO - MgO - SiO$_2$ melts. Zhur.fiz.khim. 37 no.1:169-173 Ja '63.

(MIRA 17:3)

1. Institut metallurgii imeni Baykova.

KUZNETSOV, V.I.; ZHUCH, G.I.

Activity of calcium oxides and sulfides in slag according to data on sulfur vaporization from slag and on the distribution between the cast iron and slag. Trudy Inst. met. no.14: 3-12 '63   (MIRA 17:8)

KULIKOV, I.S. (Moskva)

Theory of the sintering process. Izv. AN SSSR. Met. i gor. dela no.5:
10-15 S-O '64.
(MIRA 18:1)

KULIKOV, I.S., doktor tekhn. nauk, otv. red.

[Iron reduction and smelting processes] Protsessy vos-
stanovleniia i plavleniia zheleza. Moskva, Nauka, 1965.
158 p.   (MIRA 18:11)

1. Moscow. Institut metallurgii.

KULIKOV, I.S. (Moskva), KOMISSAROV, G.M.(Moskva)

Thermodynamic analysis of the behavior of sulfur during the sintering of iron ores. Izv. AN SSSR. Met. no.1:3-10 Ja-F '65.   (MIRA 18:5)

MURATOV, A.M. (Moskva); KULIKOV, I.S. (Moskva)

Viscosity of melts in the system SiO_2 – Al_2O_3 – CaO – MgO – CaS. Izv. AN SSSR. Met. no.4:57-62 Jl-Ag '65.

(MIRA 18:8)

KOMISSAROV, G.M.; KULIKOV, I.S.

Behavior of sulfur during sintering. Izv. vys. ucheb. zav.; chern. met.
8 no.7:20-22 '65.   (MIRA 18:7)

1. Institut metallurgii im. Baykova, Moskva.

KOMISSAROV, G.M.; KULIKOV, I.S.

Desulfuration of iron ores with their treatment in open air.
Izv. vys. ucheb. zav.; chern. met. 8 no.9:28-35 '65.

(MIRA 18:9)

1. Institut metallurgii im. Baykova.

KULIKOV, I.V., starshiy prepodavatel'

Improving the local heard in Moldavia. Zhivotnovodstvo 21 no.2:49-52
F '59.   (MIRA 12:3)

1. Kishinevskiy sel'skokhozyaystvennyy institut imeni M.V.Frunze.
   (Moldavia--Dairy cattle)

AVRASIN, Ya.D., kandidat tekhnicheskikh nauk; BERG, P.P., professor,
doktor tekhnicheskikh nauk, BERNSHTEYN, M.L., kandidat tekhnicheskikh
nauk; GEMEROZOV, P.A., starshiy nauchnyy sotrudnik; GLIKER, B.M.,
inzhener; DAVIDOVSKAYA, Ye.A., kandidat tekhnicheskikh nauk; YELCHIN,
P.M., inzhener; YEREMIN, N.I., kandidat fiziko-matematicheskikh nauk;
IVANOV, D.P., kandidat tekhnicheskikh nauk; KNOROZ, L.I., inzhener;
KOBRIN, M.M., kandidat tekhnicheskikh nauk; KORITSKIY, V.G., dotsent;
KROTKOV, D.V., inzhener; KUDRYAVTSEV, I.V., professor, doktor tekhni-
cheskikh nauk; KULIKOV, I.V., kandidat tekhnicheskikh nauk; LEPETOV,
V.A., kandidat tekhnicheskikh nauk; LIKINA, A.F., inzhener; MATVEYEV,
A.S., kandidat tekhnicheskikh nauk; MIL'MAN, B.S., kandidat tekhniche-
skikh nauk; PAVLUSHKIN, N.M., kandidat tekhnicheskikh nauk; PTITSYN,
V.I., inzhener [deceased]; RAKOVSKIY, V.S., kandidat tekhnicheskikh
nauk, RAKHSHTADT, A.G., kandidat tekhnicheskikh nauk; RYABCHENKOV,
A.V., professor, doktor khimicheskikh nauk; SIGOLAYEV, S.Ya., kandi-
dat tekhnicheskikh nauk; SMIRYAGIN, A.P., kandidat tekhnicheskikh
nauk, SUL'KIN, A.G., inzhener; TUTOV, I.Ye., kandidat tekhnicheskikh
nauk, KHRUSHCHOV, M.M., professor, doktor tekhnicheskikh nauk;
TSYPIN, I.O., kandidat tekhnicheskikh nauk; SHAROV, M.Ya., inzhener;
SHERMAN, Ya.I., dotsent; SHMELEV, B.A., kandidat tekhnicheskikh nauk;
YUGANOVA, S.A., kandidat fiziko-matematicheskikh nauk; SATEL', E.A.,
doktor tekhnicheskikh nauk, redaktor; SOKOLOVA, T.F., tekhnicheskiy
redaktor

[Machine builder's reference book] Spravochnik mashinostroitelia; v
shesti tomakh. Izd-vo mashinostroit. lit-ry. Vol.6. (Glav. red.toma
E.A.Satel'. Izd. 2-oe, ispr. i dop.) 1956. 500 p.   (MLRA 9:8)
        (Machinery--Construction)

KULIKOV, I.V., inzh.; MUKHOLOV, B.M., inzh.

Using pneumatic sinker drills in boring blasting holes in stone quarries. Stroi. mat. 5 no.5:19-21 My '59. (MIRA 12:8)
(Boring machinery)

Tolerances and gauges in woodworkings   Moskva, Goslesbumizdat, 1952.   332 p.
(54-18317)

TJ1166.K3

KULIKOV, I. V.

"Investigation of the Principal Factors Governing Interchangeability in Woodworking." Dr Tech Sci, Moscow Forestry Engineering Inst, Min Higher Education, Moscow, 1954. (KL, No 2, Jan 55)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)
SO: Sum. No. 556, 24 Jun 55

KULIKOV, Ivan Vasil'yevich, kandidat tekhnicheskikh nauk; CHULITSKIY, N.N.,
professor, dokter tekhnicheskikh nauk, redakter; DASHKOVA, Z.F.,
redakter; SHITS, V.P., tekhnicheskiy redakter.

[Principles of interchangeability in the woodworking industry]
Osnovy vzaimozameniaemosti v dereveobrabetke. Ped red. N.N.Chulitskege.
Moskva, Goslesbumizdat, 1955.286 p.   (MLRA 9:5)
        (Woed werking industries) (Interchangeable mechanism)

KULIKOV, I.V., kand.tekhn.nauk

Strength of glued tenon joints under working conditions. Der.prom.
7 no.3:10-13 Mr '58.   (MIRA 11:4)
                        (Joinery)

AFANAS'YEVICH, Pavel Semenovich, kand. tekhn. nauk; KULIKOV, I.V.,
        kand. tekhn. nauk, nauchnyy red.; RYCHEK, T.I., red.;
        TOKER, A.M., tekhn. red.

        [Woodworking machinery] Derevoobrabatyvaiushchie stanki.
        2. izd., perer. i dop. Moskva, Vses. uchebno-pedagog. izd-
        vo Proftekhizdat, 1961. 403 p.   (MIRA 15:2)
                    (Woodworking machinery)

AFANAS'YEV, Pavel Semenovich, kand. tekhn. nauk; KULIKOV, I.V.,
    kand. tekhn. nauk, nauchn. red.; KASHANI, L.A., red.;
    DORODNOVA, L.A., tekhn. red.

    [Woodworking machinery—Design and construction] Derevo-
    obrabatyvaiushchie stanki. 3. izd., ispr. Moskva, Prof-
    tekhizdat, 1963. 415 p.   (MIRA 16:12)
        (Woodworking machinery—Design and construction)

IVANKOV, Petr Timofeyevich; KULIKOV, I.V., retsenzent; KUZNETSOV,
      M.A., retsenzent; PLESKO, Ye.P., red. izd-va; VDOVINA, V.M.,
      tekhn. red.

      [Technical measurements and the fundamentals of metrology]
      Tekhnicheskie izmereniia s osnovami metrologii. Moskva, Gos-
      lesbumizdat, 1963. 256 p.   (MIRA 16:7)
          (Mensuration) (Measuring instruments)

KULIKOV, Ivan Vladimirovich; NEMANOVA, G.F., ved. red.

[Drilling prospecting boreholes with sinking pneumatic-
percussion drills] Burenie geologorazvedochnykh skva-
zhin pogruzhnymi pnevmoudarnikami. Moskva, Nedra,
1964. 84 p.   (MIRA 18:3)

KULIKOV4K8A8   600

1. KULIKOV, K.A.

2. USSR (600)

"Determining the latitude and time by reflecting zenith tubes," Astron.Zhur., 18, Nos 4-5, 1941. State astronomical institute imeni Shternberg, Moscow.

9. ▬▬ Report U-1518, 23 Oct 1951

KULIKOV, K. A.

"Determination of Permanent Nutation by Observations Made With a Pulkovo Large Zenith Telescope." Sub 12 Feb 47, Moscow Order of Lenin State U imeni M. V. Lomonosov

Dissertations presented for degrees in science and engineering in Moscow in 1947

SO: Sum No. 457, 18 Apr 55

KULIKOV, K. A.

USSR/Physics
    Astronomy
    Telescopes

Jan/Feb 49

"Determinations of Constant Aberration of Obser-
vations With the Great Pulkovo Zenith-Telescope,"
K. A. Kulikov, State Astr Inst imeni P. K.
Shternberg, 5 pp

"Astron Zhur" Vol XXVI, No 1

Presents some results of observations made from
1915 to 1929.

30/49T07

KULIKOV, K. A.

"Motion of the Poles of the Earth and the Variation of Latitude," Uspekhi
Astron. Nauk, Vol. 5, AS USSR, 1950

KULIKOV, K. A.

USSR/Astronomy - Bibliography, Reviews   Jan/Feb 52

"Book Reviews," K. A. Kulikov, S. N. Korytnikov

"Astron Zhur" Vol XXIX, No 1, pp 103-110

Reviews I. F. Polak's "Course of General Astron-
omy" 6th ed, revised, 1951, 387 pp, manual for
universities, and Yu. G. Perel's "Outstanding
Russian Astronomers" edited by S. N. Blazhko, Corr
Mem, Acad Sci USSR 1951, 216 pp, history of de-
velopment of astronomy in Russia.

202T13

KULIKOV, K.A.

Values of the solar parallax and the constant of aberration.
Astron. zhur. 31 no.6:550-555 N-D '54.   (MIRA 8:1)

1. Gosudarstvennyy astron.institut imeni P.K.Shternberga.
     (Parallax--Sun) (Aberration)

KULIKOV, K.A., professor.

Movement of the earth's poles along its surface. Priroda 44 no.11:
13-19 N '55.   (MLRA 9:1)
          (Latitude variation)

KULIKOV, K.A.; YESHKOV, V.G., akademik, redaktor; MESHKOVA, T.S., redaktor; MAKUNI, Ye.V. tekhnicheskiy redaktor.

[Movement of the earth's poles] Dvizhenie poliusov zemli. Moskva, Izd-vo Akademii nauk SSSR, 1956. 79 p.   (MLRA 9:5)
(Latitude variation)

        This publication contains the results of measurements (of the movement of the earth's poles) taken from 1891 through 1955.
D 550023

KULIKOV, Konstantin Alekseyevich; REZNIKOVSKIY, P.T., redaktor; SAMSONENKO,
L.V., redaktor; AKHLAMOV, S.N., tekhnicheskiy redaktor

[The fundamental constants of astronomy] Fundamental'nye postoian-
nye astronomii. Moskva, Gos. izd-vo tekhniko-teoret. lit-ry, 1956.
340 p.   (MIRA 9:7)
    (Astronomy)

KULIKOV, Konstantin Alekseyevich; SAMSOHENKO, L.V., red.; KOL'CHENKO, T.N.,
tekhn.red.

[Astronomy in the service of the economy] Astronomiia na sluzhbe
narodnogo khoziaistva. Moskva, Gos. izd-vo tekhniko-teoret. lit-ry,
1957. 77 p. (Populiarnye lektsii po astronomii, no.7) (MIRA 11:4)
          (Astronomy, Spherical and practical)

KULIKOV, K.A.

"Motion of heavenly bodies" by IU.A. Riabov. Reviewed by
K.A. Kulikov. Astron.zhur. 34 no.3:499-500 My-Je '57.
(MIRA 10:7)

(Mechanics, Celestial) (Ryabov, Yu.A.)

KULIKOV, K.A., professor.

Coordinates of heavenly bodies. Priroda 46 no.5:31-38 My '57.
(MLRA 10:6)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.
(Coordinates)   (Stars)   (Planets)

KULIKOV, K.A., professor.

Erroneous explanation of the shift of glaciation regions.
Priroda 46 no.7:127 Jl '57.   (MIRA 10:8)

1.Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.
                        (Cosmogony, Glacial)

AUTHOR: Kulikov, K.A., Professor   26-58-6-4/56

TITLE: Astronomy and the Study of the Earth's Interior Layers
             (Astronomiya i izucheniye glubinnykh sloyev zemli)

PERIODICAL: Priroda, 1958, Nr 6, p 19-26 (USSR)

ABSTRACT: The article deals with the problem of determining the substance
             of the earth's core. Since seismology does not suffice, astro-
             nomy and gravimetry are now being used. Astronomy permits ob-
             servation of the latitudinal changes of certain places on the
             earth's surface and study of the earth's inner structure.
             Gravimetry, which inquires into the laws of the distribution
             of gravity, also offers material to solve the problem. The
             earth's rotation and the movement of the axis make it possible
             to judge the condition of the internal substance. Observations
             with gravimeters and horizontal pendula have been extensively
             made by scientists in many countries, but results so far do
             not suffice to solve the problem of the mechanical properties
             of the earth's core. There have been various hypotheses on
             the interior structure of the earth, but the theoretical cal-
             culations made by scientists did not agree with the facts of
             seismic observations. The author names Soviet scientist M.S.
Card 1/2   Molodenskiy, who obtained very encouraging results with his

Moscow State U.

Astronomy and the Study of the Earth's Interior Layers   26-58-6-4/56

calculations, but had to admit that no decisive conclusions
could be made. The observations with gravimeters and horizontal
pendula, which are being conducted during the International
Geophysical Year, may help to solve the problem. An attempt
by Soviet scientists to base their calculations on the nu-
tational movement of the earth's pole and on comparing them
with the actual rotations of the earth, led to the assumption
that the earth's core is liquid.

Card 2/2   There are 5 figures, 1 table and 1 Soviet reference.

1. Astronomy-USSR   2. Gravimetric analysis-Equipment

BAZYKIN, V.V.; BRONSHTEN, V.A.; VORONTSOV-VEL'YAMINOV, B.A.; DAGAYEV, M.M.;
DMITRIYEV, L.S.; IZOTOV, A.A.; KULIKOV, K.A.; KUNITSKIY, R.V.;
MARTYNOV, D.Ya.; MINCHENKOV, Ye.Ya.; MOGILKO, A.D.; PEREL', Yu.G.;
POPOV, P.I.; REZNIKOV, L.I.; SVETLOV, R.I.; SEMAKIN, N.K.;
SHISTOVSKIY, K.N.

Mikhail Evgen'evich Nabokov; obituary. Fiz. v shkole 20 no.3:110-
111 My-Je '60.   (MIRA 13:11)
                    (Nabokov, Mikhail Evgen'evich, 1887-1960)

PEREL', Yu.G.; POPOV, P.I.; MARTYNOV, D.Ya.; KUNITSKIY, R.V.;
    VORONTSOV-VEL'YAMINOV, B.A.; BAZYKIN, V.V.; KULIKOV, K.A.;
    SHISTOVSKIY, K.N.; TSVETOV, R.I.; BRONSHTEN, V.A.; DAGAYEV, M.M.;
    MOGILKO, A.D.; SEMAKIN, N.K.; DMITRIYEV, L.S.; IZOTOV, A.A.

    Mihail Evgen'evich Nabokov; obituray. Bull.VAGO no.28:60-62
    '60.   (MIRA 14:6)
                (Nabokov, Mikhail Evgen'evich, 1887-1960

KULIKOV, Konstantin Alekseyevich; BAKULIN, P.I., red.; PONOMAREV, D.N.,
red.; MURASHOVA, N.Ya., tekhn. red.

[Course in spherical astronomy] Kurs sfericheskoi astronomii. Mo-
skva, Gos. izd-vo fiziko-matem. lit-ry, 1961.   174 p.
                                                (MIRA 14:8)
        (Astronomy, Spherical and practical)

KULIKOV, K.A., prof.

Variation of geographical longitudes. Priroda 50 no.11:53-59
N '61.   (MIRA 14:10)

(Longitude)

PHASE I BOOK EXPLOITATION   SOV/6219

Kulikov, Konstantin Alekseyevich

Dvizheniye polyusov Zemli (Movement of the Earth's Poles) 2d ed.,
   rev. and enl., Moscow, Izd-vo AN SSSR, 1962. 84 p. (Series:
   Akademiya nauk SSSR. Nauchno-populyarnaya seriya)

Ed. of Publishing House: Ye. M. Klyaus; Tech. Ed.: T. P. Polenova.

PURPOSE: The book is intended for the general reader.

COVERAGE: The book is a popular presentation of basic methods used
   to study the movement of the Earth's poles and the concomitant
   variations in latitudes. The theoretical and practical import-
   ance of the discipline for the solution of various problems, as
   for example the structure of the Earth's interior, is reviewed.

TABLE OF CONTENTS:

Introduction   3

Card 1/9

S/026/62/000/006/002/004
D045/D114

AUTHOR: Kulikov, K.A., Professor

TITLE: A view of the starry sky from the Moon

PERIODICAL: Priroda, no. 6, 1962, 29-36

TEXT: This popular article deals with some very well-known facts about the
Moon, particularly the appearance of the stars, Sun and Earth on the lunar
sky, with a view to mentally preparing Soviet astronauts for a Moon landing
which, in the author's opinion, will take place in the imminent future. On
the lunar sky, for example, all the stars will not twinkle and some will
move faster, the Earth's disk will be 13.7 times larger and 6-7 times
brighter than the lunar disk as seen from the Earth, solar phenomena will be
clearly depicted, and frequent solar eclipses will occur which will cause
the temperature on the Moon to drop by 220°C. For intercommunication pur-
poses the astronauts should be equipped with miniature radio transmitters and

Card 1/2

A view of the starry sky from the Moon

3/026/62/000/006/002/004
D045/D114

receivers, while portable rocket devices will allow them to cover large distances quickly and without effort. The astronauts must realize that they will not see any trace of life and that the lunar relief will differ funda- mentally from the Earth's relief. The entire lunar surface, according to investigations conducted by Academician of the AS UkrSSR, N.P. Barabashov, will be covered with crushed volcanic tuffaceous rocks which badly conduct heat and account for a fairly constant temperature at a depth of 0.5-1 m, in spite of the strong temperature variations on the Moon's surface. Large quantities of water may be found at some depth below the surface. There are 6 figures.

ASSOCIATION: Gosudarstvennyy astronomicheskiy institut im. P.K.Shternberga
              (State Astronomical Institute im. P.K.Shternberg), Moscow.

Card 2/2

KULIKOV, Konstantin Alekseyevi. Prinimal uchastiye ZHONGOLOVICH, I.D.;
     PONOMAREV, D.N., red.; MURASHOVA, N.Ya., tekhn. red.

     [Latitude and longitude variation] Izmeniaemost' shirot i dolgot.
     Moskva, Gos. izd-vo fiziko-matem. lit-ry, 1962. 400 p.
                                             (MIRA 15:5)
          (Latitude)   (longitude)

KULIKOV, K.A.

Starlit sky viewed from the moon. Elot tud 18 no.16:501-503 21
Ap '63.

ACCESSION NR: AP4040611   S/0026/64/000/006/0050/0055

AUTHOR: Kulikov, K. A. (Professor)

TITLE: What we can observe on the moon

SOURCE: Priroda, no. 6, 1964, 50-55

TOPIC TAGS: astronomy, moon, lunar surface, stellar astronomy, lunar observatory

ABSTRACT: The author repeats the popular arguments justifying a flight to the moon and presents a discussion of the meteor and volcanic hypotheses of origin of the lunar surface. The author's principal theme is the advantages for modern astronomy which would result from establishment of a lunar observatory. Various unsolved problems in astronomy and astrophysics are mentioned briefly, it being pointed out that it is the barrier of the earth's atmosphere, which transmits so little of the spectrum, which is responsible for the difficulty in solving these problems. The article points out that a lunar observatory could assist in precisely determining the intensity and distribution of the lines of the entire Lyman region of the spectrum. This will make it possible to judge the physical conditions, hydrogen content and temperature at various places in the solar corona and chromosphere and physical processes in the interplanetary medium, as well as

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ACCESSION NR: AP4040511

supply information on the earth's ionosphere and atmosphere. The general dis-
cussion continues by noting that it would be possible to detect still unidentified
elements on the sun. Lunar astronomical observations could be directed to observa-
tion and interpretation of the far infrared region of the spectra of such objects
as planets and cold stars. Much new information could be found concerning the
long-wave radio emission of radio sources and galaxies, whose spectra contain infor-
mation on soft relativistic electrons, and gamma- and hard X-radiation forming from
relativistic particles and gamma quanta from the sun, stars and other radio sources.
None of this information can be obtained through the atmosphere blanketing the
earth. Special apparatus on the lunar surface could observe solar corpuscular
streams directly. Planetary studies would be greatly advanced by investigations
impossible from the earth's surface, such as spectroscopic studies of the water
vapor and oxygen on Mars, or simple optical observations of details on the sun or
Mars. It would be possible, unlike now, to make detailed studies of galaxies,
diffuse nebulae and the outer boundaries of the Milky Way. The present-day method
used for checking the Einstein theory could be greatly improved if observations
from the lunar surface were possible. Orig. art. has: 7 figures.

ASSOCIATION: Moskovskiy gosudarstvenny+y universitet imeni M. V. Lomonosova
(Moscow State University)

Card 2/3

ACCESSION NR: AP4040511

SUBMITTED: 00   DATE ACQ: 26Jun64   ENCL: 00

SUB CODE: AA   NO REF SOV: 000   OTHER: 000

Card 3/3

KULIKOV, Konstantin Alekseyevich; FESENKOV, V.G., akademik, ot., red.

[The first astronauts on the moon; description of the moon
and the astronomical phenomena observable from its surface]
Pervye kosmonavty na Lune; opisanie Luny i astronomicheskikh
iavlenii, nabliudaemykh s ee poverkhnosti. Moskva, Nauka,
1965. 188 p.   (MIRA 18:4)

KULIKOV, K...

Sptem of astronomical constants. Astron. zhur. 42 no.3:666-668
My-Je '65.   (MIRA 18:5)

1. Gosudarstvennyy astronomicheskiy institut im. P.K.Shternberga.

KULIKOV, K.A., doktor fiz.-matem.nauk, prof., nauchn.red.;
SHUSTOVA, I.B., red.

[Astronomy, oldest of all the sciences] Astronomiia -
drevneishaia iz nauk. Moskva, Znanie, 1965. 37 p. (Na-
rodnyi universitet: Estestvenno-nauchnyi fakul'tet, no.10)
(MIRA 18:10)

KULIKOV, K.A., doktor fiz.-matem. nauk, prof., nauchn. red.;
        SHUSTOVA, I.B., red.

        [The universe around us] Vselennaia vokrug nas. Moskva,
        Znanie, 1965. 151 p. (Narodnyi universitet: Estestvenno-
        nauchnyi fakul'tet, no.12)   (MIRA 18:12)

14-57-7-15365

Translation from: Referativnyy zhurnal, Geografiya, 1957, Nr 7,
                   pp 181-182 (USSR)

AUTHOR: Kulikov, K. I.

TITLE: Residential Architecture on the Don River
             (Arkhitekturnyy obraz narodnogo zhilishcha Dona)

PERIODICAL: Tr. Novocherkas. politekhn. in-ta, 1956, Nr 33/47,
             pp 191-203

ABSTRACT: The author distinguishes four distinct types of
             dwellings in the Kamensk and Rostov Oblasts, and, to
             a lesser extent, in the Voronezh and Stalingrad
             Oblasts and the Stavropol' and Krasnodar Krays. These
             variations were caused by different natural and cli-
             matic conditions, historical, social, and economic
             factors, and the popular architecture of adjoining
             districts. The first type of dwellings, with its
             characteristic decorative objects of the Central

Card 1/2

14-57-7-15365

Residential Architecture on the Don River (Cont.)

Russian region, is most common in the northern sections of the Don
River district which borders on the Voronezh and Stalingrad Oblasts.
It is found in the zone of stanitsas Mal'chevskaya, Kashary, and
Chernyshevskaya.   The second type preserves feature characteristic of
Ukrainian cottages and is very common in the western regions that
border on the Ukrainian SSR, in the zone of stations and villages
of Chertkovo, Krivorozh'ye, Litvinovka, and Likhovskaya.   Further
to the south the houses are those of the mining settlements in the
Donbas.   The third type of dwelling is chiefly found in the Don
River valley and the areas on its right bank.   Here the kuren',
basic dwelling unit   of the Don region, is very common.   The fourth
type includes dwellings in the southern and eastern districts along
the left bank of the river (the trans-Don region, Sal'sk, and
Manych steppes).   The architecture of these regions shows affili-
ations with the architecture of the central steppe districts.
Card 2/2   O. K.

KULIKOV, K.K., mashinist

Simplification of a relay-type protective network. Elek.i
tepl.tiaga 5 no.11:38 N '61.   (MIRA 14:11)

1. Depo Usol'skaya Sverdlovskoy dorogi.
                  (Electric locomotives)

KULIKOV, K.K., mashinist

Ways to control a train with damaged valve coils of the PKG-305V
group switch. Elek. i tepl. tiaga no.6:38 Je '62. (MIRA 15:7)

1. Depo Usol'skaya Sverdlovskoy dorogi.
        (Electric locomotives)   (Railroads—Brakes)
                        (Electric switchgear)

S/181/63/005/001/052/064
B104/B186

AUTHORS: Buryak, Ye. V., Kaufman, S. A., and Kulikov, K. M.

TITLE: Hole trapping cross section of singly charged gold ions in germanium

PERIODICAL: Fizika tverdogo tela, v. 5, no. 1, 1963, 345-347

TEXT: The majority carrier lifetime τ was determined from the production-recombination noise in p-type germanium single crystals alloyed with gold and antimony. The latter was added to compensate uncontrolled acceptors. The concentration of gold was $2 \cdot 10^{15}$ cm^{-3} and that of the recombination centers was $\simeq 10^{14}$ cm^{-3}. According to L. Johnson, H. Levinstein (Phys. Rev., 117, 1191, 1960), T. P. Vogl, I. R. Hansen, and M. Garbuny (J. Opt. Soc. Am., 51, no. 1, 70, 1961) the following equation holds for the square of the voltage of production-recombination noise:

$$U_{\text{\tiny \textbullet}}^{2'} = \frac{4U^2 R^2 R_{\text{\tiny \textbullet}}^2 \Delta f}{(R + R_{\text{\tiny \textbullet}})^4 \rho V} \frac{\tau}{1 + 4\pi^2 f^2 \tau^2} , \qquad (1),$$

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where $U_{ш} \equiv U_{noise}$, R is the resistance of the specimen, R is the load resistance connected in series with the specimen, U is the battery voltage, V is the volume of the specimen, p is the majority carrier concentration, f is the frequency, Δf is the band width of the measuring unit. From this expression it follows that the majority carrier lifetime in the plateau range $(f \ll 1/\tau)$ of the frequency dependence of the noise can be calculated from

$$\tau = \frac{U_{ш}^2 (R + R_и)^4 pV}{4U^2 R^2 R_и^2 \Delta f};$$

In the range of decreasing frequency dependence, τ can be calculated from $\tau = 1/2\pi f_{1/2}$, where $f_{1/2}$ is the frequency at which U_{noise}^2 drops to half the value at frequencies in the plateau range. p and the recombination center concentration N_g were determined from the temperature dependence of the Hall coefficient. The noise spectrum was measured in the frequency ranges $30 - 3\cdot10^5$ cps and $1.6\cdot10^5 - 10^7$ cps by two devices. The value

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$(1-1.6) \cdot 10^{-14}$ cm^2 was obtained for the hole trapping cross section by means of the τ values and the relation $\bar{\sigma}_p = 1/\bar{v}_T \tau N_g$, where v_T is the mean thermal velocity of the carriers. There are 2 figures and 1 table.

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ACCESSION NR: AP5025406   UR/0181/65/007/010/3132/3134

AUTHOR: Kaufman, S. A.; Kulikov, K. M.

TITLE: The cross section for capture of holes by mercury and zinc ions in germanium

SOURCE: Fizika tverdogo tela, v. 7, no. 10, 1965, 3132-3134

TOPIC TAGS: germanium, capture cross section, Hall constant, recombination center, lifetime, generation recombination noise

ABSTRACT: The capture cross sections for holes by Hg^- and $Zn^=$ ions in Ge doped with impurities to a concentration of $3-10 \times 10^{14}$ cm^{-3} and compensated with Sb were determined. The experiments were conducted at $\sim$55K using samples $2 \times 2 \times 10$ mm. The number of recombination centers was calculated from the temperature dependence of the Hall constant, and the lifetime of the holes, from the frequency variation of generation-recombination noise. The capture cross section for holes by Hg^- in Ge was estimated to be $\sim 7 \times 10^{-14}$ cm^2 and that by $Zn^=$ in Ge, 1.5×10^{-13} cm^2. Orig. art. has: 2 figures and 1 formula.   [CS]

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Card 1/1

KULIKOV, K.N.; GORBACHEVA, V.O.

Tensiometer for measuring the tension in moving threads. Khim.
volok. no.4:63-64 '64.   (MIRA 18:4)

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